

Caution in Using High Sensitive Differential Scanning Calorimetry

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Abstract

The analysis and interpretation of data obtained from high-sensitive (HS) differential scanning calorimetry (DSC) experiments is a creative art and great skill. In this research, we have analyzed and compared the DSC results from two different types of HS-DSC equipment. Our results showed additional peak in the native lines that differ among DSC instruments which may lead to a drastic inaccuracy in the interpretation of DSC profiles. Literature survey on the articles in which these instruments were used showed the same disturbance in the native lines. Disturbances in the native line can be revealed by repeating the experiments and by comparing the results from different instruments. It is recommended to have good experiences and knowing the characteristic disturbances in the DSC profiles to eliminate the false interpretation.

Keyword: HS-DSC, Thermogram, DSC analysis, Native line